



# JOURNAL OF ALLOYS AND COMPOUNDS

An Interdisciplinary Journal of Materials Science and Solid-State Chemistry and Physics

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### DESCRIPTION

The *Journal of Alloys and Compounds* is intended to serve as an international medium for the publication of work on **solid materials** comprising **compounds** as well as **alloys**. Its great strength lies in the diversity of discipline which it encompasses, drawing together results from **materials science**, solid-state **chemistry** and **physics**. The interdisciplinary nature of the journal is evident in many subject areas. Experimental and theoretical approaches to materials problems require an active interplay between a variety of traditional and novel scientific disciplines. In much of the work published in the journal, synthetic and structural studies are combined with investigations of chemical and physical properties of alloys and compounds, contributing to the development of areas of current scientific interest. Papers submitted for publication should contain new experimental or theoretical results. The *Journal of Alloys and Compounds* provides a unique international forum where materials scientists, chemists and physicists can present their results both to workers in their own fields and to others active in related areas.

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### AUDIENCE

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[3] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), *Introduction to the Electronic Age*, E-Publishing Inc., New York, 2009, pp. 281–304.

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The keywords for the *Journal of Alloys and Compounds* are separated into four categories:

### A. Types of Material

actinide alloys and compounds  
amorphous materials  
ceramics  
clusters  
coating materials  
composite materials  
data storage materials  
disordered systems  
electrode materials  
energy storage materials  
ferroelectrics  
fuel cells  
fullerenes  
half metals  
heterojunctions  
high-temperature alloys  
high-T<sub>c</sub> superconductors  
hydrogen absorbing materials  
inorganic materials  
insulators  
intermetallics  
interstitial alloys  
liquid crystals  
magnetic films and multilayers  
magnetically ordered materials  
metal hydrides  
metallic glasses

- metal matrix composites
- metals and alloys
- nanostructured materials
- nitride materials
- nuclear reactor materials
- optical materials
- oxide materials
- permanent magnets
- phosphors
- polymers, elastomers, and plastics
- quantum wells
- quasicrystals
- rare earth alloys and compounds
- semiconductors
- spin glasses
- superconductors
- surfaces and interfaces
- thin films
- transition metal alloys and compounds
- thermoelectric materials

### ***B. Preparation and Processing***

- amorphisation
- chemical synthesis
- crystal growth
- gas-solid reactions
- laser processing
- liquid-solid reactions
- precipitation
- powder metallurgy
- mechanical alloying
- mechanochemical processing
- nanofabrications
- rapid-solidification, quenching
- sintering
- sol-gel processes
- solid state reactions
- vapor deposition

### ***C. Phenomena***

- atomic scale structure
- acoustic properties
- anisotropy
- anharmonicity
- catalysis
- composition fluctuations
- crystal structure
- corrosion
- crystal and ligand fields
- crystal binding and equation of state
- cyclotron resonance
- dielectric response
- diffusion
- dislocations and disclinations
- domain structure
- elasticity
- electrical transport
- electrochemical reactions
- electromotive force, EMF
- electron-electron interactions
- electron-phonon interactions

electronic band structure  
electronic properties  
enthalpy  
entropy  
exchange and superexchange  
fractional quantum Hall effect  
flux pinning and creep  
galvanomagnetic effects  
grain boundaries  
heat capacity  
heat conduction  
heavy fermions  
hyperfine interactions  
ionic conduction  
impurities in semiconductors  
kondo effect  
kinetics  
magnetisation  
magnetocaloric  
magnetoresistance  
magnetostriction  
magneto-volume effects  
mechanical properties  
microstructure  
noise  
optical properties  
order-disorder effects  
oxidation  
phase diagrams  
phase transitions  
phonons  
photoconductivity and photovoltaics  
piezoelectricity, electrostriction  
preferential site ordering  
point defects  
quantum Hall effect  
quantum localization  
radiation effects  
recombination and trapping  
shape memory  
spin dynamics  
spin-orbit effects  
thermal expansion  
thermodynamic properties  
thermoelectric  
thermochemistry  
tunnelling  
vacancy formation  
valence fluctuations

#### ***D. Experimental and Theoretical Methods***

atomic force microscopy, AFM  
atom, molecule, and ion impact  
calorimetry  
computer simulations  
elastic light scattering  
electrochemical impedance spectroscopy  
electron emission spectroscopies  
electron energy loss spectroscopy  
electron paramagnetic resonance  
EXAFS, NEXAFS, SEXAFS



high-pressure  
high magnetic fields  
inelastic light scattering  
inelastic neutron scattering  
light absorption and reflection  
luminescence  
magnetic measurements  
Mössbauer spectroscopy  
metallography  
molecular dynamics simulations  
muon spectroscopies  
neutron diffraction  
nonlinear optics  
nuclear resonances  
optical spectroscopy  
perturbed angular correlations, PAC  
photoelectron spectroscopies  
positron spectroscopies  
Rutherford backscattering, RBS  
scanning electron microscopy, SEM  
scanning tunnelling microscopy, STM  
strain, high pressure  
surface electron diffraction (LEED, RHEED)  
synchrotron radiation  
thermal analysis  
thermodynamic modeling  
time-resolved optical spectroscopies  
transmission electron microscopy, TEM  
X-ray diffraction  
X-ray and gamma-ray spectroscopies  
Ultrasonics

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